

Nitride Ceramics To Mount Aluminum Nitride Seed For Sublimation Growth

ABSTRACT OF THE DISCLOSURE

An apparatus and method for fabricating a mount for an aluminum nitride (AlN) seed for single crystal aluminum nitride growth is provided. A holder having a proximal base and wall portions extending therefrom is fabricated from crystal growth crucible material, and defines an internal cavity. An AlN seed is placed within the holder, and placed within a nitrogen atmosphere at a temperature at or exceeding the melting point of a suitable material capable of forming a nitride ceramic by nitridation, such as aluminum. Pellets fabricated from this material are dropped into the holder and onto the seed, so that they melt and react with the nitrogen atmosphere to form a nitride ceramic. The seed is effectively molded in-situ with the ceramic, so that the ceramic and holder forms a closely conforming holder for the seed, suitable for single crystal AlN growth.